DIRECT TESTIMONY

OF

MATTHEW SMITH

PIPELINE SAFETY ANALYST II

SAFETY AND RELIABILITY DIVISION

ILLINOIS COMMERCE COMMISSION

Illinois Commerce Commission On Its Own Motion

vs.

Peoples Gas Light and Coke Company

DOCKET NO. 12-0623

Citation for failure to comply with 49 CFR 192.465(d)

January 24, 2013

WITNESS IDENTIFICATION

Q. What is your name and business address?

A. My name is Matt Smith. My business address is 527 E. Capitol Avenue, Springfield, IL.

Q. By whom are you employed and in what capacity?

A. I am employed by the Illinois Commerce Commission ("Commission") as a Pipeline Safety Analyst II in the Pipeline Safety Program ("PSP") in the Safety and Reliability Division. In my current position, I perform audits and inspections for the Commission's PSP, which ensures that natural gas system operators in Illinois are meeting minimum federal safety standards prescribed by 49 Code of Federal Regulations ("C.F.R.") Parts 191, 192, 193, and 199, and by the Illinois Gas Pipeline Safety Act ("Illinois Act").[1]

Q. Please describe your education and experience?

A. I received a B.A. from the University of Illinois at Springfield in Legal Studies in 2001. Prior to my employment with the Commission, I held the position of Journeyman Welder with Ameren Illinois Company. My duties included construction activities, welding, emergency response, and various other duties. All duties and activities that I conducted were done in a manner consistent with company, state, and federal requirements. Since accepting my position at the Commission, I have received extensive technical training at the Pipeline Hazardous Material Safety Administration

[1] 220 ILCS § 20/1, et seq.

Training and Qualification Division ("T&Q") in Oklahoma City, Oklahoma, which is where state and federal pipeline safety inspectors receive technical education relating to the enforcement and interpretation of pipeline safety standards. My training at T&Q has included subjects, such as, Introduction to Part 192; Pipeline Safety Regulation; Application and Compliance; Natural Gas Odorization; Joining of Pipeline Materials; Incident Investigation; Pipeline Integrity Management; Operator Qualification; Pipeline Corrosion Control; Pressure Regulation and Overpressure Protection; and various other technical aspects of natural gas pipeline operations. I have worked as a Pipeline Safety Analyst for the Commission for 5 years as of July 2, 2012, and have a total of 20 years experience in the natural gas transportation industry.

PURPOSE OF TESTIMONY

Q. What is the purpose of this proceeding?

A. The purpose of my testimony is to present Commission Staff's ("Staff") position. I performed an audit of the cathodic protection records for Peoples Gas Light and Coke Company ("PGL") and created, or participated in creating, reports about that audit, including the Staff Report filed on November 20, 2012, which led to the initiating order in this proceeding.

REGULATORY AND ENFORCEMENT PROVISIONS

Q. What authority or jurisdiction does the ICC have in this matter?

A. I am not an attorney, but it is my understanding that through the enactment of the Natural Gas Pipeline Safety Act ("Federal Act"), enacted as Public Law 90-481, Congress mandated gas pipeline safety regulation by the United States Department of Transportation ("USDOT") in 1968. The Federal Act provided for state pipeline safety regulation in states certified by USDOT. In 1969, the Illinois General Assembly enacted the Illinois Gas Pipeline Safety Act,[2] enacted as Public Act 76-1288. Subsection 3(a) of the Illinois Act[3] charged the Commission with adopting rules that are at least as inclusive and as stringent as the pipeline safety regulations adopted by the United States Secretary of Transportation, and required the Commission to seek federal certification to regulate pipeline safety within Illinois. Section 9 of the Illinois Act[4] required the Commission to prepare and file with the Secretary of Transportation the initial and annual certification and report required by Subsection 5(a) of the Federal Act. The Commission has maintained certification since the 1970s, under rules codified at 83 Ill. Adm. Code § 590.10, et seq. Finally, the federal standards codified under 49 C.F.R. Parts 191, 192, 193, and 199 have been adopted by the Commission pursuant to 83 Ill. Adm. Code § 590, as required to maintain the Commission's authority for enforcement of the Minimum Federal Safety Standards granted to the Commission under an agreement pursuant to

[2] *Id.*

[3] 220 ILCS § 20/3.

[4] 220 ILCS § 20/9.

Section 5 of the Federal Act[5] with the U.S. Department of Transportation Office of Pipeline Safety.

COMPLIANCE RELATED ISSUES

Q. Please describe the compliance related issues that initiated this proceeding.

A. Pipeline Safety Staff, including myself, conducted an audit of PGL's 2011 cathodic protection records on January 10-13 and 17-18, 2012, to determine compliance with 49 C.F.R. § 192 Subpart I. The audit established that PGL has failed to maintain adequate cathodic protection on portions of its natural gas pipeline system for a period of years, and remedial measures necessary to address the deficiencies were not applied in a timely manner.

Q. Has PGL failed to maintain adequate levels of cathodic protection to its gas system or to take prompt remedial measures at any time prior to your audit of the 2011 cathodic protection records?

A. Yes. In 2005, a Noncompliance Letter was submitted by the PSP Manager to PGL for failure to take prompt remedial action to correct deficiencies indicated by external corrosion monitoring. In 2006, the Commission issued an Order in Docket 06-0311, including a civil penalty assessment of $1,000,000, for numerous deficiencies in PGL's pipeline safety practices. The Order also required PGL to pay for, and cooperate with, a consultant chosen by the Commission, Liberty Consultants, to conduct a comprehensive investigation of PGL compliance with the Commission's

[5] 49 U.S.C.A. § 60105 (West 2012).

pipeline safety regulations. Staff has since conducted annual compliance audits to determine if PGL has met the recommendations submitted by the consultant. A review of Staff's compliance audit reports for 2006, 2007, 2009, 2010, and 2011 indicate that portions of PGL cathodic protection system did not meet minimum pipeline safety requirements. Upon Staff's request, PGL provided documents stipulating cathodic protection test points, within PGL's system, where corrective action has taken longer than 15 months for the years 2009 to 2011. The documentation indicates that at two locations deficient readings were outstanding since 2007. Therefore, either compliance audit reports or PGL corrosion documentation have indicated that cathodic protection levels have been deficient since 2006.

Q. What are the Federal Standards regarding cathodic protection that PGL must meet?

A. 49 C.F.R. Part 192 Appendix D, Subsection I, offers four options. An operator must establish which option will be utilized to ascertain if adequate cathodic protection is being applied to the steel pipeline system.

Q. Which approach does PGL use?

A. According to the PGL's Corrosion Control Policy (Section V(E)), attached as Staff Ex. 1.1, which was in effect at the time of the audit, the operator will meet the requirements of 49 C.F.R. Part 192 Appendix D, Section I, Subsection A (1).

Q. What does this requirement stipulate?

A. The requirement states that a negative (cathodic) voltage of at least 0.85 volts direct current ("DC"), with reference to a saturated copper-copper sulfate half cell, is required on the pipeline system.

Q. Has PGL maintained the negative voltage of at least 0.85 volts DC?

A. No. Both Liberty Consultants and Staff have separately found that portions of the corrosion monitoring locations within the PGL system are deficient. Staff identified deficient cathodic protection voltages ranging from negative 0.16 volts DC to 0.84 volts DC. In some instances, the readings indicate inadequate cathodic protection since 2007.

Q. If PGL fails to maintain, at a minimum, negative 0.85 volts DC then what will occur to the natural gas system?

A. Without proper cathodic protection, the steel pipelines are continually trying to return to their natural state. This transformation in the steel pipeline is called corrosion. To prevent corrosion a pipeline must have a coating to limit the amount of surface area in contact with the soil, and an applied current system. The current system is used to shift the potential of the metal in a more negative direction. This combination of proper coatings and adequate negative potential will allow the steel pipeline to remain intact.

Without adequate cathodic protection the steel pipelines return to their normal state, which causes the pipeline to corrode. The corrosion process on a steel pipeline will result in leakage along the pipeline. A gas leak follows the path of least resistance. Various factors contribute to the location that the gas will escape. For example, soil

conditions, gas pressure within the pipeline, and the type of cover at grade level. Depending on these factors a gas leak that may vent to the surface close to the leak away from structures could have a low potential for causing an explosion. But a leak that is in close proximity to structures, and where concrete is the cover material at grade level will cause the leak to migrate. The leak migration follows the path of least resistance. For instance, this path may be a sewer line that is connected to several structures. The leak can enter numerous structures through the sewer line and accumulate in each structure. If the leak is not detected and repaired, then continual build-up of natural gas could be ignited in a structure, thus causing an explosion. The natural gas pipeline system within PGL's system in Chicago includes closely spaced structures and highly populated areas. The potential for a devastating explosion is more severe with these factors.

Q. What are the requirements regarding correcting deficiencies identified by the monitoring?

A. 49 CFR § 192.465 (d) states "[e]ach operator shall take prompt remedial action to correct any deficiencies indicated by the monitoring."

Q. Does the C.F.R. define "prompt"?

A. No. Each operator must define prompt remedial action in its Operations and Maintenance Manual.

Q. Does PGL define prompt remedial action in its Operations and Maintenance Manual?

A. Yes, in PGL's Corrosion Control Policy Manual (Section V(F)), attached as Staff Ex. 1.1 states "PGL's objective is to complete necessary remedial action such that cathodic protection is restored to the system within one year from time of discovery of the inadequate protection level."

Q. Why is it important to take prompt remedial actions?

A. Adequate cathodic protection prevents the pipeline from actively corroding. Active corrosion is defined in 49 C.F.R. § 192.3 as "continuing corrosion that, unless controlled, could result in a condition that is detrimental to public safety." Put another way, failure to apply proper levels of cathodic protection will allow steel pipeline to deteriorate, which through time can cause the pipeline to leak. Given the various factors involved, such as, soil conditions, concrete or asphalt ground cover, and proximity of any leak to residences or other structures, a pipeline failure can have a significant destructive impact in the form of gas explosions.

Q. Has PGL been informed of the failure to take prompt remedial action to correct deficiencies prior to Staff's audit of the 2011 cathodic protection records?

A. Yes. Past PSP audits of PGL's records, which were shared with PGL, indicated this as a concern. Additionally, as part of an above described Commission citation case Order, Liberty Consultants audited all facets of the corrosion program for PGL. As part of Liberty Consultants' audit, PGL was provided Liberty's audit findings on a quarterly basis.

Q. What were the findings by the Liberty Consultants?

A. Recommendation II-18 stated "Liberty found that PGL did not perform corrective actions in a timely fashion. PGL did not typically schedule corrective actions for work until 11 months after the down corrosion reading. The procedure automatically called for an anode installation, which may or may not be an effective solution. PGL did not prioritize corrective actions based on the type of facility affected. Effective corrective actions could and did exceed the 12-month window for required repairs."[6] Liberty Consultants' recommendation is attached as Staff Ex. 1.2.

Liberty Consultants referred to a "down corrosion reading" in the recommendation. A down corrosion reading is a reading that does not meet the requirements in 49 C.F.R. § 192, Appendix D, Section I, Subsection A (1). If a cathodic protection reading is more positive than negative 0.85 volts DC then it is considered deficient and termed as "down."

Q. Was Recommendation II-18 closed by the Liberty consultant?

A. Yes. The Liberty Consultant final report stated that, as of June 7, 2010, there were a total of 823 pending corrective action jobs. Of the 823 corrective action jobs, 25 were considered overdue, accounting for roughly 3 percent of the total corrective action jobs.

Q. Why was this Recommendation closed if there were jobs that were not corrected in a timely manner?

[6] Liberty's 8th Quarterly Report on the Verification of Peoples Gas Pipeline Safety Program Improvements

A. Liberty Consultants had a two-year monitoring period within which to close some or all of the Recommendations. My understanding is that because of this short timeframe, and because PGL made great strides during that period of time, Liberty determined that the recommendation should be considered closed. However, PGL failed to achieve 100% compliance once the recommendation was closed. The pattern of noncompliance continued, and became more pronounced, once Liberty stopped monitoring PGL's performance.

Q. Was a request made for corrosion records associated with corrective actions that were deficient in 2009 and 2010?

A. Yes, at the conclusion of the 2012 corrosion record audit, I requested a list of all locations where corrective actions exceeded 15 months from 2009 to 2011.

Q. What did the review of the records conclude?

A. There were 287 locations where corrective actions exceeded 15 months, but were eventually completed. An additional 18 were determined to be overdue and corrective actions were not completed at the time PGL submitted the record to ICC Staff. The records provided by PGL are attached as Staff Ex. 1.3.

Q. How does this compare to the findings when Liberty Recommendation II-18 was closed?

A. As previously mentioned, when Liberty closed Recommendation II-18 there were 25 locations for which the corrective action was considered overdue. According to PGL's records, attached as Staff Ex. 1.3, there were 305 total deficiencies requiring

corrective action that were still not corrected within 15 months of discovering the inadequate protection levels. This indicates that PGL was not improving, as was its trend while Liberty monitored its corrosion control program, but instead began again to fail to take corrective actions in a timely manner.

Q. What has the PSP done to address PGL's continued noncompliance?

A. The PSP Manager had several meetings with PGL executive management to discuss the failure to conduct timely remedial actions. During each meeting, PGL committed to devoting additional emphasis and resources to correcting the problem. In early 2011, the PSP Manager instructed Staff to, and Staff did, inform PGL that citation proceedings would be requested if the noncompliance continued in 2011.

Q. Please summarize your testimony thus far.

A. PGL has a history of failing to promptly correct corrosion control deficiencies even prior to 2005. The Commission has previously required PGL to correct the deficiencies discovered on its pipeline in an Order issued in 2006. A Staff review of cathodic protection records for 2009 to 2011indicated that a total of 305 instances of deficiency had not been corrected within 15 months of the discovery of the respective deficiency, although PGL defines "prompt" to mean within one year. PGL continually failed to meet the requirements of 49 C.F.R. § 192.465 (d), in direct violation of the Commission Order.

Without adequate cathodic protection, a pipeline will deteriorate and has the potential to leak. In some cases, deterioration can also result in replacement of the pipeline prior to the end of its normal life expectancy, resulting in unnecessary costs.

Various other factors are present in PGL's service territory in Chicago, such as concrete and paved streets and other extensive paved areas that increase the risk of uncontrolled underground gas migration posed by a natural gas leak due to a pipeline failure. High population density also increases the potential consequences of a pipeline failure.

Q. What penalties may be assessed against Peoples?

A. 49 U.S.C. § 60122, adopted by Section 7 of the Illinois Act,[7] allows for civil penalties of not more than $200,000 for each violation, for a maximum of $2,000,000. Both the Illinois and the federal statute state that each day the violation persists is also a separate violation.[8]

Q. In this situation what would be considered a violation?

A. Each location with a deficiency that PGL failed to correct within one year of its discovery should be a separate violation of the requirement established in 49 C.F.R. §192.465 (d). At least 305 locations were determined to have exceeded the annual corrective action time limitation. Every day at every location where any required

[7] 220 ILCS § 20/7.

[8] 49 U.S.C. § 60122(a); 220 ILCS § 20/7(a).

corrective action was not taken past the one-year time limitation should be a separate violation.

Q. What do you consider an appropriate penalty considering the gravity of this violation?

A. Considering PGL's continued and long-standing disregard of the statutory protection requirements, and the requirements of the Commission's Order, that is, its failure over a period of years to complete remedial actions in a timely manner, Staff recommends the maximum penalty be imposed for the violation of 49 C.F.R. §192.465 (d). Civil penalties in the amount of $2,000,000 should be assessed.

In addition to the civil penalty, due to the continued pattern of noncompliance and apparent disregard of the requirements imposed by the Commission's order, the Commission should order PGL to hire a competent third-party contractor to manage its cathodic protection program for a period of no less than five years.

Q. Does this conclude your testimony?

A. Yes, it does.